



Nuclear Event Survival — Pocket Guide

THE LIFE-SAVING ESSENTIALS · KEEP ON PAPER

A condensed summary of the 75-page
Nuclear Event Survival Master Guide.
Carry this; read the full guide first.

01 THE THREE RULES — MEMORISE THESE

RULE 1

Get inside

Move to the centre of a sturdy building at once. A basement is best.

RULE 2

Stay inside

Minimum 24 hours, ideally 48–72. Fallout decays fast.

RULE 3

Stay tuned

Monitor emergency broadcasts and follow official instructions.

02 IF YOU SEE A BRIGHT FLASH — THE FIRST 60 SECONDS

1. **Don't look at the flash.** Turn away, shut your eyes, and drop low behind anything solid.
2. **Count to 60.** The blast wave can arrive seconds later — stay down, head covered, away from glass until it has fully passed.
3. **Get inside immediately.** Move fast to a basement or the centre of a solid building.
4. **Seal the room.** Close windows, doors and vents; tape plastic sheeting over gaps.
5. **Stay put 24 hours minimum,** monitor radiation, and use the 7-10 rule (below) to judge when to move.

03 RADIATION READING — WHAT TO DO

GEIGER READING	ACTION
> 1000 $\mu\text{Sv/h}$	Do not go outside. Shelter at the highest protection factor you can reach.
100–1000 $\mu\text{Sv/h}$	Emergency exits only — under 5 minutes, masked.
10–100 $\mu\text{Sv/h}$	Brief trips only — under 30 minutes, masked.
< 10 $\mu\text{Sv/h}$	Extended activity possible with a mask.

04 THE 7-10 RULE — RADIATION DECAY & TIMING

KEY FACT

For every **7-fold increase in time** after the detonation, the radiation level drops by a **factor of 10**. Most of the danger is in the first hours and days.

TIME AFTER BLAST	RELATIVE LEVEL	STATUS
1 hour	baseline ($\times 1$)	LETHAL
7 hours	$\div 10$	EXTREME
~ 2 days (49 h)	$\div 100$	HIGH
~ 2 weeks (343 h)	$\div 1,000$	RELOCATION WINDOW
~ 100 days	$\div 10,000$	MANAGEABLE

05 RADIATION UNITS — QUICK CONVERSION

UNIT	EQUIVALENT	USE
1 Sievert (Sv)	= 100 rem = 1,000 mSv = 1,000,000 μSv	Modern SI unit for biological dose
1 rem	= 0.01 Sv = 10 mSv = 10,000 μSv	Older US unit, common in literature
1 Roentgen (R)	$\approx 0.01 \text{ Sv} \approx 10 \text{ mSv}$ (gamma)	Exposure unit — $\approx$ rem for gamma
1 Gray (Gy)	= 1 Sv (gamma/beta) = 100 rad	Absorbed dose — = Sv for gamma

Field rule for gamma fallout: **1 R/hr $\approx$ 10,000 $\mu\text{Sv/h} \approx$ 10 mSv/h.** So "1000 R/hr" at H+1 $\approx$ 10,000,000 $\mu\text{Sv/h}$ — immediately lethal.

06 SHELTERING — PROTECTION FACTOR (PF)

PF = how many times your dose is reduced. PF 40 means you receive 1/40th of the outdoor dose. **Goal: PF 10 minimum** (90% reduction). Aim for **PF 40+** in heavy fallout. Go down and to the centre — put mass (earth, concrete, water) between you and the outside, including above you.

WHERE TO SHELTER

LOCATION	PF
Outside / open ground	1
Wood-frame house, main floor	2–3
Ground-floor inner room, no windows	3–5
Basement (wood house)	10–20
Middle floors, large concrete building	10–20
Concrete / sub-basement core	40–100
Dedicated / deep shelter	100–1000+

SHIELDING TO HALVE THE DOSE

MATERIAL	HALVES DOSE	PF ~32
Steel	2.5 cm	12.5 cm
Concrete	6 cm	30 cm
Packed earth	9 cm	45 cm
Water	18 cm	90 cm
Wood (poor)	29 cm	145 cm

Use sandbags, water containers, books and furniture to build up mass around and over your shelter spot.

07 THE FIRST 6 HOURS — 5 KM VS 50 KM (100 KT GROUND BURST)

Illustrative. Exact effects depend on wind, weather, terrain and the precise burst — a ground burst makes **heavy local fallout**. Read your real dose rate with a meter and let the 7-10 rule guide when to move.

TIME	5 KM — INSIDE THE BLAST & HEAVY-FALLOUT ZONE	50 KM — DOWNWIND, FALLOUT INCOMING
0–60 sec	0 s — Flash + EMP (light speed): blinding light; EMP can knock out unshielded electronics nearby. 0–~2 s — Thermal pulse (critical) : searing heat burns exposed skin and ignites fires — don't look; drop low behind cover . ~12–15 s — Blast wave (critical) : ≈2 psi — windows shatter, doors and roofs fail, debris flies. +1–2 s — Negative pressure (critical) : the suction phase pulls walls and glass back outward — stay down until <i>both</i> have passed.	0 s — Flash + EMP : bright flash on the horizon; a ground burst's EMP stays local, so little effect this far out. Thermal : visible flash only — no burns. No blast yet . No injury — treat this as your starting gun: get inside and begin sealing.
1–10 min	Blast and suction have passed; fires and debris around you. Move to the strongest core (basement / centre). Survival window — very short : heavy fallout begins ~5–15 min, so be inside within ~1–2 min.	~2–3 min — faint blast / rumble may reach you (negligible; might rattle windows). Survival window — ~30 min to 2 h before fallout arrives (wind-dependent). Use it: seal windows, doors and vents, fill water, set up filtered air, bring everyone in.
10–60 min	Heavy fallout arrives (~5–15 min) . Dose rate climbs toward lethal in the open. Stay in best shelter, decontaminate on entry, take KI if advised.	Usually still pre-fallout. Finish sealing, set up a decon point at the door, take KI if advised.
1–3 h	Peak dose rate — do not go outside . By the 7-10 rule, levels begin their steep fall after the first hours.	Fallout typically arrives ~30 min–2 h downwind (sooner in strong wind). Be sealed inside before it does; dose rate rises but far below the 5 km zone.
3–6 h	Dose rate now well below the H+1 peak but still dangerous — stay sheltered and keep monitoring.	Local dose rate near its peak after arrival, then easing. Stay inside and monitor with a meter.

08 DECONTAMINATION, WATER, AIR & FOOD

DECONTAMINATE ON ENTRY

Removing outer clothing alone removes up to ~90% of contamination. This clears particles, not the dose already absorbed — act fast.

- Remove outer clothing & shoes; bag, seal, leave in a far corner or outside.
- Shower lukewarm; shampoo hair 3×; **no conditioner** (binds particles).
- Blow nose, clean ears; brush teeth and rinse — don't swallow.
- Clean under fingernails; recheck with a Geiger counter; dress in sealed clean clothes.

WATER

Fill every container the moment the blast happens — mains may fail within hours. Water stored before the event is safe; tap water after fallout is not.

- **Boil 1 min** → kills bacteria/viruses.
- **Filter** (cloth/sand/charcoal) → removes particles, not dissolved isotopes.
- **Distil** → only reliable method for dissolved radioactivity.
- Sources: stored water, hot-water tank (power/gas off, drain low), toilet cistern (tank only), canned liquids, deep wells.

AIR

- Seal windows, doors and vents with plastic sheeting + duct tape.
- Wear an **FFP3 / N100 mask** any time you're near unfiltered air or handling fallout.
- Balance sealing against CO₂ build-up — air out briefly when the reading allows.

FOOD

- Sealed and canned food is **safe** — wipe the outside before opening.
- Avoid fresh, exposed or uncovered food and open water.
- Eat bland, easy-to-digest food; keep hands and surfaces clean.

SANITATION

- Line a bucket with a heavy bag; seal it with a tight lid between uses.
- Layer waste with **clay/bentonite cat litter** to control odour and bacteria.
- Double-bag, seal, and keep it away from the living and eating area.
- Sanitise hands after every use — infection is a major killer.

HEAT, LIGHT & CO

- Use battery or wind-up light first — no flame, no fumes.
- **Any flame — candle, stove, heater — burns oxygen and makes deadly carbon monoxide** in a sealed room.
- Only burn anything with ventilation **and** a CO alarm running.
- Layer clothing and blankets for warmth before resorting to a flame.

09 MEDICATION & MEDICAL RESPONSE

READ BEFORE USING ANY MEDICINE

This is general reference information, **not a prescription**. Doses vary with age, weight, pregnancy, allergies and kidney/liver function. Use prescription medicines only when a qualified professional is genuinely unreachable — ideally after consulting one in advance. Never give antibiotics or iodine to children, or during pregnancy, without checking the cautions below.

POTASSIUM IODIDE (KI) — THYROID PROTECTION

AGE	DOSE	DURATION
Adults 18+ (and over 68 kg)	130 mg	Daily until exposure ends
12–18 years	65 mg	Daily until exposure ends
3–12 years	65 mg	Daily until exposure ends
1 month – 3 years	32 mg	Daily until exposure ends
Newborn – 1 month	16 mg	Single dose only

HOW KI WORKS

KI blocks the thyroid's uptake of **radioactive iodine (I-131) only**. Take it **before, or within 4 hours of, exposure**. It is not effective taken more than 24 hours after, and gives **no** protection against other isotopes or external radiation.

OTHER MEDICINES TO PRIORITISE

PURPOSE	MEDICINE & NOTES
Nausea / vomiting	Ondansetron or metoclopramide (anti-emetics).
Infection	Doxycycline (adults). Children <8 and pregnancy: azithromycin instead — avoid doxycycline & ciprofloxacin.
Diarrhoea	Loperamide; plus oral rehydration salts (or salt + sugar + clean water).
Pain / fever	Adults: paracetamol or ibuprofen; low-dose aspirin for clot reduction. Children — paracetamol 10–15 mg/kg every 4–6 h (max 75 mg/kg/day, ≤4 g); ibuprofen 5–10 mg/kg every 6–8 h (max 40 mg/kg/day, ≤1.2 g).
Wounds	Povidone-iodine or chlorhexidine antiseptic; dressings, burn gel, cling film for burns.

VULNERABLE GROUPS

- **Children:** more radiosensitive — KI is more important; dehydrate faster.
- **Pregnancy:** KI 130 mg/day but limit to 3–4 days if possible; use azithromycin, not doxycycline/cipro.
- **Adults 40+:** KI only for very high thyroid dose (>500 mSv).
- **Infants:** ready-to-feed formula, or bottled water for mixing until tap is tested.

VOMITING ONSET → DOSE (ARS)

VOMITING STARTS	SEVERITY
≥ 4 h / none	Likely survivable
2–4 h	Supportive care
1–2 h	Serious — needs treatment
30 m–1 h	Severe (~50% fatal)
< 30 min	Critical

10 FILTERED AIR INTAKE & EMERGENCY RADIO

DON'T SEAL WITHOUT VENTILATION

A sealed room with several people gets dangerously hot and CO₂-heavy within hours. You need **filtered ventilation** — especially in warm weather or with more than 2–3 people.

FILTERED AIR-INTAKE — HOW TO BUILD IT

- **Filter stack:** pre-filter (furnace filter) → **HEPA H13/H14** (or MERV 13+).
- **Ducting:** 4–6" flexible, 2–3 m, duct-taped to the filter.
- **Air mover (pick one):** 12 V inline duct fan (quiet, battery), fireplace bellows/blower, hand-crank bilge blower, Kearny air pump (DIY), or a camping air pump.
- **Gooseneck:** bend the outside intake **downward** so fallout can't drop in.
- **Layout:** filtered intake at one end → small exhaust crack at the far end → gentle **positive pressure** keeps unfiltered air out.

AIRFLOW NEEDED

PEOPLE	MIN AIRFLOW
2	6 CFM (10 m³/h)
4	12 CFM (20 m³/h)
6+	20+ CFM (35+)

Hot weather: aim for 40+ CFM. Order: pre-filter → HEPA → duct → shelter.

EMERGENCY RADIO FREQUENCIES

GB UNITED KINGDOM	
BBC Radio 4 (emergency)	198 kHz LW · 92–95 FM
PMR446 calling (Ch 1)	446.00625 MHz
PMR446 prepper (Ch 8)	446.09375 MHz
CB emergency (Ch 9)	27.065 MHz
Ham 2 m / 70 cm call	145.500 / 433.500
Maritime distress (Ch 16)	156.80 MHz
Aviation distress	121.5 / 243.0 MHz

US UNITED STATES	
Emergency AM (EAS)	530–1710 kHz
NOAA weather	162.400–162.550 MHz
GMRS emergency (Ch 20)	462.675 MHz
FRS emergency (Ch 1)	462.5625 MHz
CB emergency (Ch 9)	27.065 MHz
Ham 2 m simplex	146.52 MHz
FEMA · Ham HF	138.225 · 7.290 MHz

PMR446 Ch 1 (446.00625 MHz) with no tone is the de-facto EU emergency calling channel — radios are licence-free and cheap. Keep all radios in the Faraday container until needed.

11 PACKING & SUPPLIES CHECKLIST

Stock these now — they won't be available after an event. Target a shelter that reaches **PF 10+**. Store all electronics in a sealed metal (Faraday) container until needed.

SHELTER & SEALING

- ☐ Plastic sheeting (6–10 mil)
- ☐ Duct tape (4–6 rolls)
- ☐ Plywood ½" (12 mm)
- ☐ Long screws + drill/driver
- ☐ Empty sandbags (50–100)
- ☐ Heavy-duty bin bags (30+)
- ☐ Spade / shovel
- ☐ Hammer + assorted nails
- ☐ Axe, crowbar, hand saw

WATER & FOOD

- ☐ Water: 3–4 L per person/day, 2+ weeks
- ☐ Collapsible water bladders
- ☐ Canned food (soups, stews, fruit)
- ☐ Dry goods: rice, pasta, beans, oats
- ☐ Manual can opener (×2)
- ☐ Water purification tablets
- ☐ Gravity filter (long-term)
- ☐ Utensils, cups, utility knife

SANITATION & HYGIENE

- ☐ Clay/bentonite cat litter (2 bags pp)
- ☐ 5-gallon bucket + sealed lid
- ☐ Hand sanitiser, wet wipes
- ☐ Toilet paper, disinfectant
- ☐ Fragrance-free thin bleach
- ☐ Zip-lock bags (all sizes)
- ☐ Soap, toothbrush + paste pp

CLOTHING & PPE

- ☐ 2–3 full clothing sets pp
- ☐ Warm layers, socks, spare boots
- ☐ Blankets (2+ pp), foil/bivvy bag
- ☐ Tyvek coveralls (2–4)
- ☐ FFP3 / N100 masks (10+ pp)
- ☐ Sealed goggles
- ☐ Nitrile gloves (100+), work gloves
- ☐ Disposable shoe/hair covers

MEDICAL KIT

- ☐ Potassium iodide (KI) tablets
- ☐ Antibiotics (doxycycline; azithro for kids/pregnancy)
- ☐ Anti-emetic (ondansetron)
- ☐ Loperamide (anti-diarrhoeal)
- ☐ Oral rehydration salts
- ☐ Paracetamol / ibuprofen; aspirin
- ☐ Antiseptic (povidone-iodine / chlorhexidine)
- ☐ Bandages, gauze, burn gel, cling film
- ☐ Trauma shears, thermometer, pulse oximeter
- ☐ Prescription meds (30+ day supply)

ELECTRONICS (FARADAY-STORED)

- ☐ Geiger counter + spare batteries
- ☐ Wind-up torch
- ☐ Battery AM/FM/SW radio
- ☐ Foldable solar panel (5–20 W)
- ☐ USB power bank, spare phone
- ☐ USB drives: documents & maps
- ☐ CO₂ (NDIR) + CO monitors
- ☐ Spare AA / AAA batteries (20+)

VENTILATION

- ☐ HEPA filters (spares)
- ☐ Vent pipes (5–10", 2 m+)
- ☐ Two manual air blowers (in + out)
- ☐ Activated carbon material
- ☐ Mesh/screen, tubing/hose
- ☐ Box fan (if power available)

TOOLS & ESSENTIALS

- ☐ Multi-tool, pliers, scissors
- ☐ Zip ties, paracord (50 m+)
- ☐ Heavy-duty aluminium foil
- ☐ Markers, notebook, sewing kit
- ☐ Compass, local paper maps
- ☐ Camp stove + fuel; waterproof matches
- ☐ Candles & glow sticks (20+ each)
- ☐ Whistle & mirror (signalling)
- ☐ First-aid manual
- ☐ **This guide + the full guide (printed)**